

APPENDIX A

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Organic Chemistry

SECOND EDITION

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Second Edition

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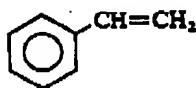
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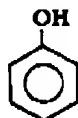
Vinylbenzene has the common name *styrene*; it is a compound widely used in the plastics industry.



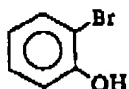
Styrene

The group PhCH_2- is quite common and has the name *benzyl*; thus PhCH_2Cl is called *benzyl chloride*.

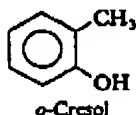
Phenol is the popular name for benzenol, and the monomethyl phenols are known as *cresols*. Phenol containing a small amount of water is a liquid at room temperature; in this form it is often referred to in pharmacy as *carbolic acid*. *Lysol* and similar products are powerful antiseptics and have the characteristic odor of phenol and the cresols. Phenol was the first compound to be used extensively as an antiseptic in medicine, by Lister in 1867. Phenol is used today mainly as a starting material in the plastics industry.



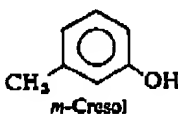
Phenol



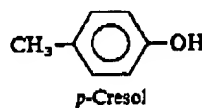
o-Bromophenol



o-Cresol

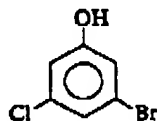


m-Cresol

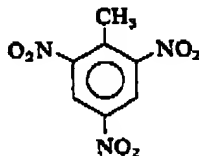


p-Cresol

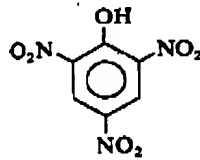
For more highly substituted rings, a numbering system is used, the root function being understood to be at position 1, and the numbering proceeding around the ring in the direction that gives the lowest numbers to other substituents. Thus *m*-bromophenol could be called 3-bromophenol (not 5-bromophenol), it being understood that the hydroxyl is at position 1. The ortho and para isomers could be called 2- and 4-substituted, respectively. More complicated examples are as follows:



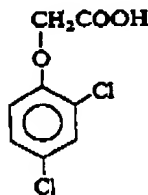
3-Bromo-5-chlorophenol



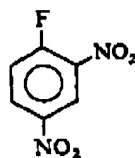
2,4,6-Trinitrotoluene (TNT)



Picric acid (2,4,6-Trinitrophenol)



2,4-Dichlorophenoxyacetic acid (2,4-D), a herbicide



1-Fluoro-2,4-dinitrobenzene

PHENOLS IN NATURE. A great many phenols and phenol ethers occur in nature. Only a very few of these with special interest can be mentioned here. *o*-Hydroxybenzoic acid, known as salicylic acid, can be obtained from the willow tree (genus *Salix*). Its